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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

# INTERMEDIATE EELGRASS AND MACRO ALGAE HABITAT SURVEY

For

The Anchor and Mooring Area, and the
old "No Anchor" Buoy in
Eagle Harbor

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Conducted by:

**The U.S. Environmental Protection Agency**
**Region 10 Dive Team**

Bruce Duncan, Lisa Macchio, Joe Goulet, Rob Pedersen,
Chad Schulze, Sean Sheldrake,

Purpose: To conduct an intermediate eelgrass, macro algae habitat survey of the 850,000 square foot Anchor and Mooring Area (AM) and the area surrounding the old coordinates of the "No Anchor" buoy in Eagle Harbor. This information will supplement the City of Bainbridge Island's (COBI) Anchor Mooring Draft Plan which will be submitted to the Washington State Fish and Wildlife Department for approval. The information collected at the coordinates for the old "No Anchor" buoy will be submitted to the Washington State Fish and Wildlife Department as part of the COBI's Harbor Commission JARPA application for placement of navigational buoys.

Survey Dates: June 2nd through the 5th, 2003.

Methods: The survey was conducted from EPA's 28 ft. aluminum hull research boat, the Monitor, and was completed using open circuit scuba, underwater scooters, and writing slates to record the eelgrass/macro algae community. The scooters used in the survey were Dacor Corporation SeaSprints (Model SV900). Visibility was so poor (1 to 4 ft) that the use of photography was impractical. The limited number of photographs collected were taken using a Nikon Corporation 35MM Nikonos-V with Kodak 400 35MM color print film. The camera was set on automatic shutter speed with a 3 to 5 foot depth of field.

The 850,000 square AM was divided up into approximately 18 transects (every 50 feet) varying from 150 to1600 feet in length. Generally, divers surveyed one transect per pass, however, some transects were surveyed together through a zig-zag pattern across the AM. Verbal and written observations were recorded after completing each transect on a field Site Report (attached). The information included divers depth, bottom substrate, eelgrass/macro algae observed, and benthic organisms observed. The COBI placed transect marker buoys at the western and eastern ends of the transects.

Divers descended buoy lines with scooters mounted with compasses, and slates. One diver maintained the compass bearing while the other conducted the survey. The divers' bubbles were monitored at the surface for bearing accuracy and distance along the transect. An Ocean Technology Systems Diver Recall (Model DRS-100) was used to notify the divers if they moved off the transect or finished the full extent of the transect. After surfacing, divers sat on the boat swim step and were shuttled back to the western side of the AM to survey the next, pre-marked transect site.

Since the mean lower low water (MLLW) averaged -2.0 fsw around noon for all days, depths in the AM ranged from 16 fsw to 36 fsw (from west to east). The average depth at the old "No Anchor" buoy site was 41 fsw.

The survey at the old "No Anchor" buoy site was conducted using Interspiro Divator MK-II Full Face Masks. Divers descended the marker buoy set by the COBI and used a 100 foot

coiling tape measure to conduct surveys at differing radii from the marker buoy anchor. Surveys were conducted at 0, 7, 15, 22, 30, 38, and 45 feet.

Weather was sunny and warm with light winds. Underwater visibility ranged from 1 to 4 feet.

Summary of Findings: All sites surveyed showed no presence of eelgrass and only sparse presence of common species of macro algae including, *Ulva/Monostromata sp., Rhizoclonium riparium, Laminaria sp., Cryptosiphonia woodii, Gigartina exasperata, Entormorpha intestinalis, Desmarestia ligulata, Costeria costata* (see Macro Algae Species List page 9).

The majority of algae are located in the south portion of the AM in water less than 25 fsw (see qualitative algae site map for general trends of algae distribution), although distribution was still very sparse in this region. No algae were found in the northern deeper regions of the AM (transects #16 - 20) where depths reached 36 fsw.

Only a few isolated patches of algae (similar species as in the AM) where observed during the entire survey of the old "No Anchor" buoy site.

Bottom substrate for all transects and sites was mud and silt with miscellaneous shells and other debris. The western one-third to one half of the transects were productive subtidal mud flats for bivalves.

## Marco Algae Intermediate Habitat Survey
## Site Report

**Anchor and Mooring Area:**

**06/03/03**

**TRANSECT # 2-5 Length:** 75 - 300 ft

Depth: 22 ft Photo Numbers: NA Time: 2:30 pm

Bottom Characteristics/ Substrate:Mud, silt, misc. shells

Observed Eelgrass/Macro Algae:No eelgrass
Sparse Green algae (*Ulva/Monostromata*) in shallow water
Sparse Brown algae (*Laminaria sp.)*

Observed Organisms: Bivalve holes (unidentified)
Crabs (rock crab, Dungeness)
Several *Metridium sp.* (orange, white)

**TRANSECT # 6 Length:** 500 ft

Depth: 21 ft Photo Numbers: NA Time: 1:53 pm

Bottom Characteristics/ Substrate:Mud, silt, misc. shells

Observed Eelgrass/Macro Algae:No eelgrass
Sparse Green algae (*Ulva/Monostromata*) in shallow water
Sparse Brown algae (*Laminaria sp.)* Associated with mooring blocks.

Observed Organisms: Bivalve holes (unidentified)
Crabs (rock crab)
Several *Metridium sp.* (orange, white)

**TRANSECT # 7 Length:** 650 ft

Depth: 24 ft Photo Numbers: NA Time: 1:21 pm

Bottom Characteristics/ Substrate:Mud and silt

Observed Eelgrass/Macro Algae:No eelgrass
Sparse Green algae (*Ulva/Monostromata*) in shallow water

Sparse Brown algae (*Laminaria sp.),*

Observed Organisms: Bivalve holes (unidentified)
Crabs (rock crab)
Several *Metridium sp.* (orange, white)

**TRANSECT # 8-9 Length:** 800 - 950 ft

Depth: 20 ft Photo Numbers: NA Time: 12:23 pm

Bottom Characteristics/ Substrate:Mud, silt, bivalve shells

Observed Eelgrass/Macro Algae:No eelgrass
Sparse Green algae (*Ulva/Monostromata*) in shallow water
Sparse Brown algae (*Laminaria sp.)*
Sparse Red algae (*Cryptosiphonia woodii)*

Observed Organisms: Bivalve holes (unidentified)
Crabs (rock crab, Dungeness)
Several *Metridium sp.* (orange, white, red)
Several flat fish (flounder)
Several Rat fish

**TRANSECT # 10 Length:** 1100 ft

Depth: 30 ft Photo Numbers: NA Time: 11:22 am

Bottom Characteristics/ Substrate:Mud, silt, misc. shells

Observed Eelgrass/Macro Algae:No eelgrass
Sparse Green algae (*Ulva/Monostromata, Entormorpha intestinalis*) in shallow water.
Sparse Brown algae (*Laminaria sp., Desmarestia ligulata)*

Observed Organisms: Bivalve holes (unidentified)
Crabs (rock crab, Dungeness)
Several *Metridium sp.* (orange, white)

**TRANSECT # 11 Length:** 1300 ft

Depth: 31 ft Photo Numbers: #1 - 4 Time: 10:07 am

Bottom Characteristics/ Substrate:Mud, silt, misc. shells

Observed Eelgrass/Macro Algae:No eelgrass

Sparse Green algae (*Ulva/Monostromata*) in shallow water
Sparse Brown algae (*Laminaria sp., Costeria costata)*
Sparse Red filamentous algae (*Cryptosiphonia woodii*)

Observed Organisms:
Bivalve holes (unidentified)
Crabs (rock crab, Dungeness)
Several *Metridium sp.* (orange, white)
Sea star (*Evasterias troschellii*)

**06/02/03**

**TRANSECT # 12- 13 Length: 1300 - 1600 ft**

Depth: 26 ft Photo Numbers: 5 - 9 Time: 1:42 pm

Bottom Characteristics/ Substrate:Mud, silt, misc. shells, Large 25-35 ft sunken fishing vessel

Observed Eelgrass/Macro Algae:No eelgrass
Sparse Green algae (*Ulva/Monostromata, Entormorpha intestinalis* )
Sparse brown algae (*Laminaria sp., Desmarestia ligulata )*
Sparse Red algae (*Gigartina exasperata*)
Sparse Red filamentous algae (*Cryptosiphonia woodii*)

Observed Organisms:
Bivalve holes (unidentified)
Crabs (rock crab, Dungeness)
Several *Metridium sp.* (orange, white)
Flat Fish and Rat Fish
*Sabellid* tube worms

**TRANSECT # 14 Length: 1600 ft**

Depth: 29 ft Photo Numbers: NA Time: 12:20 pm

Bottom Characteristics/ Substrate:Mud, silt, misc. shells, 12-14 ft. row boat

Observed Eelgrass/Macro Algae:No eelgrass
Sparse Green algae (*Ulva/Monostromata, Entormorpha intestinalis* )
Sparse brown algae (*Laminaria sp., Desmarestia ligulata )*
Sparse Red filamentous algae (*Cryptosiphonia woodii*)

Observed Organisms:
Bivalve holes (unidentified)
Crabs (rock crab, Dungeness)
Several *Metridium sp.* (orange, white)
Sea cucumber
Large star fish (*Pisaster brevispinus*)
Flat Fish and Rat Fish

**06/04/03**

**TRANSECT # 15 Length:** 1400 ft

Depth: 36 ft Photo Numbers: NA Time: 10:01 am

Bottom Characteristics/ Substrate: Mud, silt, misc. shells

Observed Eelgrass/Macro Algae: No eelgrass
Sparse brown algae (*Laminaria sp.*)

Observed Organisms:
Bivalve holes (unidentified)
Tube syphons
Crabs (rock crab, Dungeness)
Several *Metridium sp.* (orange, white)
Rat fish

**TRANSECT # 16 Length:** 1250 ft

Depth: 35 ft Photo Numbers: NA Time: 10:40 am

Bottom Characteristics/ Substrate: Mud, silt, misc. shells

Observed Eelgrass/Macro Algae: No eelgrass
Very Sparse Green algae (*Ulva/Monostromata*)
Very Sparse Red algae (*Laminaria sp.*)

Observed Organisms:
Bivalve holes (unidentified)
Crabs (rock crab, Dungeness)
Several *Metridium sp.* (orange, white)
Sea Cucumber

**TRANSECT # 17 Length:** 1150 ft

Depth: 34 ft Photo Numbers: NA Time: 11:23 am

Bottom Characteristics/ Substrate: Mud, silt, misc. shells

Observed Eelgrass/Macro Algae: No eelgrass
Sparse Red algae (*Laminaria sp.*)

Observed Organisms:
Bivalve holes (unidentified)
Numerous *Metridium sp.* (orange, white)

**TRANSECT # 18 Length:** 1050 ft

Depth: 31 ft Photo Numbers: NA Time: 12:41 pm

Bottom Characteristics/ Substrate:Mud, silt, misc. shells

Observed Eelgrass/Macro Algae:No eelgrass
Very sparse to no algae

Observed Organisms: Bivalve holes (unidentified)
Crabs (rock crab, Dungeness)
Several *Metridium sp.* (orange)

**TRANSECT # 19 Length: 850 ft**

Depth: 33 ft Photo Numbers: NATime: 1:19 pm

Bottom Characteristics/ Substrate:Mud, silt, misc. shells, deck chairs

Observed Eelgrass/Macro Algae:No eelgrass
Very sparse to no algae

Observed Organisms: Bivalve holes (unidentified)
Crab (rock crab)
Several *Metridium sp.* (orange, white)
Flat fish (flouder)

**TRANSECT # 20 Length: 600 ft**

Depth: 34 ft Photo Numbers: NATime: 10:40 am

Bottom Characteristics/ Substrate:Mud, silt, misc. shells

Observed Eelgrass/Macro Algae:No eelgrass
Very sparse to no algae

Observed Organisms: Bivalve holes (unidentified)
Crabs (rock crab)
*Metridium sp.* (orange)

**06/05/03**

**Site: Old "No Anchor" buoy (Lat. 47 37 11 N; Long. 122 30 36)**

Depth: 41 ft Photo Numbers: NATime: 11:12 am, and 12:29 pm

Bottom Characteristics/ Substrate:Mud, silt, misc. shells

Observed Eelgrass/Macro Algae:No eelgrass
Very sparse to no algae

Observed Organisms: Bivalve holes (unidentified)
Sea pens
*Metridium sp.* (orange, white)

## Benthic Organisms Observed

Bivalves-

geoducks, others

Crustaceans-

rock crab (*Cancer productus*)
Dungeness crab (*Cancer magister)*
other crabs similar to kelp crab

Icthians-

flounder
Rat Fish

Others-

Feather like filter feeders
Sea cucumber (*Parastichopus californicus*)
soft tube worms (*Sabellids*)
Plumose anemone (*Metridium sp.)* (orange, white)
Tube Syphons (bivalves)
Large star fish (*Pisaster brevispinus*)
Mottled Star (*Evasterias troschelii*)

**Macro Algae Species List***

Green algae -

*Ulva/Monostromata*
*Rhizoclonium riparium*
*Entormorpha intestinalis*

Brown algae -

*Laminaria sp.*
*Laminaria saccharina*
*Desmarestia sp.*
*Desmarestia ligulata*
*Costeria costata*

Red algae -

*Cryptosiphonia woodii*
*Gigartina exasperata*
possible *Grateloupia*

**EPA REGION 10 DIVE REPORT**

**From:** **Chad Schulze**, Working Diver

**Thru:** **Rob Pedersen**, UDO

**Date of dives:** 2-5 June 2003
**Date or report:** 12 June 2003

**To:** **Keven McDermott**, OEA
**Jan Hastings**, Director, OEA

**Project Objectives:**

1) Conduct an Intermediate eelgrass, macro algae habitat survey of an 850,000 square foot Anchor and Mooring Area (AM) in Eagle Harbor to the West of the Wyckoff cap .

2) Search for and recover the ground tackle for the "No Anchor" buoy at west corner of the Wyckoff cap. Examine the cap for possible seeps or ruptures created from the ground tackle. Survey area for eelgrass/ macro algae.

3) Examine and record dimensions of the ground water treatment plant outfall end-of-pipe (EOP) located near the green channel marker east of the Wyckoff Cap.

4) Examine the Wyckoff cap for creosote seeps and general integrity.

**Scientific Observations/Data collection:**

1) Anchor and Mooring Area:
No eelgrass and very little macro algae was observed in the 850,000 square acre Anchor and Mooring Area (see Eelgrass Macro Algae Survey Report). The sparse algae were usually found attached to small pebbles, discarded human-made articles (pots, pans, bottles etc.), or existing anchors and anchor lines. The algal community observed included the following;

| **Green algae -** | **Brown algae -** | **Red algae -** |
|---|---|---|
| *Ulva lactuca* | *Laminaria sp.* | *Cryptosiphonia woodii* |
| *Rhizoclonium sp.* | *Laminaria saccharina* | *Gigartina exasperata* |
| *Enteromorpha intestinalis* | *Desmarestia ligulata* | possible *Grateloupia* |
| | *Costaria costata* | |

The bottom substrate in the entire Anchor and Mooring Area consisted of mud and silt. Along with the heavy sediment floating in the water column the muddy substrate made photography impractical. Transect depths ranged form 16 fsw to 36 fsw in the Anchor and Mooring Area.

Observed benthic organisms included; bivalves (geoducks, others), Crustaceans (rock crab, Dungeness, others), Icthians (flounder and other flat fish, rat fish), Others- a few sea cucumbers and sea stars including a huge *Pisaster brevispinus*, *Metridium* (orange, brown, white anemones).

2) The "No Anchor" buoy:
The ground tackle for the "No Anchor" buoy was not found and may need to be located with a metal detector. The buoy disappeared in 1997 and could have been buried by sedimentation and/or additions to the Wyckoff cap. Circle searches at 7, 15, 22, 30, 38, and 45 feet from the original coordinates were unsuccessful in locating tackle. During our search we conducted a macro algae survey and observed sparse patches of *Laminaria sp.*, and *Desmarestia ligulata*. The substrate and the benthic organisms were similar to that found in the Anchor and Mooring Area (i.e., mud and silt). Sea pens were also observed in this area. The average depth was 41 fsw.

3) The ground water treatment plant outfall:

Located near the green channel marker east of the Wyckoff Cap the EOP was confirmed to have a 2 ½" diameter opening/"diffuser" attached to a 7" estimated inside diameter pipe. The location of the outfall was found to be 40 feet from the number 1 channel marker on a bearing of 235 degrees. Divers inspected the outfall pipe where visible from the outfall towards shore until it was buried. Two joints were noted to be coming apart, though not significantly leaking at this time (divers can see leakage due to the haze produced by freshwater contacting saltwater). One hole was approximately 1" x 3/4".

4) Seepage near sheet steel wall and general cap area:
Some eelgrass and an abundance of macro algae appeared in most sections of the cap. Benthic organisms were also plentiful (including one ray). Some clear signs of creosote contamination appeared on the algae in the section of the cap near the area of former pooling. (Algae in the section of the cap near the area of former pooling were blanched, decomposing, and possibly covered with an unidentified material. These are the same characteristics observed in previous dives in this location where algae were presumably affected by pooling creosote. No creosote was seen here on June 5th., however.

**DAY 1 (06/02/03)**

Divers used open circuit scuba to conduct the intermediate eelgrass/ macro algae survey. There were approximately 18 transects running east to west that ranged in distance from 50 to 1600 feet. The COBI (City of Bainbridge Island, Harbor Master) placed transect marker buoys at the western and eastern ends of the transects. Divers descended buoy lines with scooters mounted with compasses and slates to record the benthic community (see Habit Survey Guidelines in Dive Plan). Note: visibility was so poor (1 - 4 ft) that the Nikonos still camera was not used to document the benthic community. The longest transects were surveyed first (#13 and #14).

One diver maintained the compass bearing while the other conducted the macro algae survey. The divers' bubbles were monitored at the surface for bearing accuracy and distance along the transect. The diver recall was used to notify the divers if they moved off the transect or finished the full extent of the transect. After surfacing, divers sat on the boat swim step and were shuttled back to the western side of the AM to survey the next, pre-marked transect site. Written and verbal observations were recorded on a habitat survey form. The information included divers depth, bottom substrate, eelgrass/macro algae observed, benthic organisms observed, and depth.

At 8:45 am we met Tami Allen, the Harbor Master, and Bob Selzer, a Harbor Steward, at Water Front Park on Eagle Harbor. The first dive group enter the water at approximately 11:10 am with camera, scooters, and slates. The first dive was aborted because Lisa Macchio's (LM) zipper ruptured. Chad Schulze (CS) and RP completed the first transect (#14) at 1:00 pm. A small boat wreck was observed near the beginning of the first transect. A sunken fishing vessels was discovered and marked by the divers with a pelican float about 2/3rds. the distance of the transect. The EPA Boat operator, Andy Hess (AH) recorded the GPS of the pelican float. CS and RP resumed the survey of transect #13 but were not able to fully complete transect because of a shortage of air. However, the western/deeper portion of the long transects were similar (devoid of marine life). Therefore, the divers and Harbor Master considered this bottom area to be adequately characterized.

**DAY 2 (06/03/03)**

Again, at 8:45 am, we met Tami Allen, and Bob Selzer, at Water Front Park on Eagle Harbor. LM brought Justine Barton's Turbo Viking because of the broken zipper discovered the first day. CS and RP began surveying transect #11 (transect #12 was essentially surveyed the day before because the divers oscillated between transect #14 and #11 while trying to stay on bearing for transect #13). A total of 10 transects were completed. An L-shaped object about the size of two picnic table was observed near the start/shallow portion of the first transects. The object was covered with Sabellid tube worms.

**DAY 3 (06/04/03)**

Sean Sheldrake (SS) and Joe Goulet (JG) joined CS and BD to complete the macro algae study of the Anchor and Mooring Area. Again, at 8:45 am, we met Tami Allen, and Bob Selzer, at Water Front Park on Eagle Harbor. The last of the transects (6) were completed with no complications.

**DAY 4 (06/05/03)**

Divers switched to a full face mask (AGA) to conduct the dives on or near the Wyckoff cap. SS and BD examined the ground water treatment plant outfall and conducted two circle searches for the missing ground tackle for the "No Anchor" buoy that disappeared in 1997. CS and JG conducted one circle search for the ground tackle and then surveyed the Wyckoff cap for creosote. No complications were noted.

**Pollution Sources:** Creosote during Wyckoff cap dives.

**Decontamination Required:** Soap and fresh water, plastic bags for heavily contaminated equipment.

**Potential Hazards:** Boat traffic, entanglement (anchor lines, search lines, pelicans).

**Maximum Water Depth:** 51 fsw

**Maximum Water Current:** Current weak and variable

**Diving Platform:** Monitor

**Divemaster:** Rob Pedersen, Sean Sheldrake

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|---|---|---|---|
| **Cox'n:** | Andy Hess, (Day 1)<br>Bill Chamberlain (Day 2)<br>Bill Chamberlain,<br>Marc Stifleman (Day 3)<br>Andy Hess,<br>Marc Stifleman (Day 4) | **Divers:** | Day 1 CS, RP, LM<br>Day 2: CS, RP, LM, BD<br>Day 3: CS, SS, BD, JG<br>Day 4: CS, SS, BD, JG |

**Tender:** divers

**Equipment/Diver issues:** We only had three divers on day 1 because Lyn Frandsen (LF) (b) (6) and the backup diver, Bruce Duncan (BD), was not able to deploy with such short notice. BD filled in for LF on day 2. LM's zipper broke on day 1. The zipper appeared to be "reset" on the boat (suit held air) but there was an obvious offset; consequently the Divemaster, Rob Pedersen (RP), assigned LM as the stand by diver for the rest the day. On the second dive of day 1, CS's tank slipped out of the Buoyancy Compensator and a fin strap came loose. RP secured the tank and fixed the fin strap for CS to reattach fin to foot. Mid way through the second transect (# 13) on day 1, RP's scooter malfunctioned because his slate pencil and pencil tubing wound around the propeller and jammed the scooter. The dive was aborted and the scooter was disassembled to remove the bound pencil tubing. AH and LM fixed and reassembled the scooter. One day 3, while descending for the ground tackle search, SS had to resurface because of ear squeeze. SS had to fully remove his AGA on the boat to fix the seal problem. The tenders used the diver recall to inform BD of the situation and instructed him to wait patiently at the anchor of the down line for SS. No other complications were noted.

1) Any loose equipment on a diver using a scooter must be securely attached or removed from the diver because of the danger that the loose equipment will foul the scooter propellers. On 3 separate occasions pelican float lines and slate pencil tubing became entangled in the scooter's propellers. In addition a sheet of rubbery material tangled in the prop on day 3 and was removed underwater.
2) Recall microphone wire needs repair (exposed wires).
3) LM's zipper ruptured.
4) RP's new neck seal was too tight and needs to be cut back a little.
5) Scooter compass have large bubbles and need to be replaced.
6) SS's left boot seam started to come apart; though no leakage occurred was repaired after project completion - as a preventative measure.
7) JG's ankle weights came apart during van loading; will replace from unassigned weights or purchase new.
8) BD's wet suit gloves are coming apart at many of the finger seams and will be replaced from available kevlar gloves acquired during the shuttle recovery diving operations.
9) BD had slight suit leak, probably from inlet valve since it occurred with both open circuit and full face mask.

| Divers | Maximum Depth | Bottom Time (minutes) | Task |
|---|---|---|---|
| 6/02 RP/LM | 18 | 18 | Survey Transect #14. (did not complete) |
| 6/02 RP/CS | 29 | 41 | Survey Transect #14. |
| 6/02 RP/CS | 26 | 33 | Survey Transect #12 - 13. (Scooter repair) |
| 6/02 RP/CS | 30 | 24 | Finish Surveying Transect #12 - 13.. |
| 6/03 RP/CS | 31 | 39 | Survey Transect #11 |
| 6/03 RP/CS | 30 | 34 | Survey Transect #10 |
| 6/03 RP/CS | 20 | 21 | Survey Transect #8 - 9 |
| 6/03 BD/LM | 24 | 22 | Survey Transect #7 |
| 6/03 BD/LM | 21 | 23 | Survey Transect #6 |
| 6/03 BD/LM | 22 | 25 | Survey Transect #2-5 |
| 6/04 BD/SS* | 36 | 26 | Survey Transect #15 |
| 6/04 BD/SS* | 35 | 27 | Survey Transect #16 |
| 6/04 BD/SS* | 34 | 22 | Survey Transect #17 |
| 6/04 JG/CS | 31 | 23 | Survey Transect #18 |
| 6/04 JG/CS | 32 | 17 | Survey Transect #19 |
| 6/04 JG/CS | 31 | 12 | Survey Transect #20 |
| 6/05 BD/SS** | 51 | 30 | Examine ground water treatment plant outfall |
| 6/05 BD/SS** | 41 | 33 | Search for "No Anchor" buoy ground tackle. |
| 6/05 JG/CS | 42 | 21 | Search for "No Anchor" buoy ground tackle. |
| 6/05 JG/CS | 40 | 32 | Survey Wyckoff cap for creosote seeps etc. |

* Acting Dive Master CS
** Acting Dive Master JG